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State-Based Chronic Disease Control: The Rocky Mountain Tobacco-Free Challenge

In 1984, the Surgeon General set as a goal a "smoke-free society" in the United States by the year 2000 (*1*). To help meet this goal, in February 1988, the governors of eight states—Arizona, Colorado, Montana, New Mexico, North Dakota, South Dakota, Utah, and Wyoming—initiated the Rocky Mountain Tobacco-Free Challenge (RMTFC), a regional effort to reduce the prevalences of tobacco use and chronic diseases associated with tobacco use. The RMTFC will continue until the year 2000; each year, based on evaluation of efforts to reduce tobacco use, the RMTFC plans to designate one state as the challenge leader. Based on information reviewed by the evaluation panel in May 1989, North Dakota was the leader after the first year of the RMTFC.

Health education directors of the participating states developed the following objectives for each of the eight states for the year 2000: 1) a 50% reduction in the prevalence of tobacco use among adults and adolescents, 2) an overall 50% reduction in tobacco consumption, 3) a 25% reduction in tobacco-attributable mortality, and 4) statewide clean indoor air laws that eliminate environmental tobacco smoke exposure in public places and worksites. Baseline data for these objectives are available from different national and state sources (*2–5*) (Table 1).

For 1988–89, the RMTFC had two components. First, 12 areas for intervention were designated: coalition building and networking; community information and education; counteradvertising; economic incentives and disincentives; higher education; legislation; policy; professional education; program planning and evaluation; schools; special populations; and miscellaneous.

State health departments solicited for review descriptions of ongoing or planned tobacco-use reduction programs from local agencies, volunteer groups, and coalitions. One hundred twenty-three descriptions were submitted in the eight states. Each state then chose one program from each of the 12 areas for evaluation by the Office on Smoking and Health (OSH), Center for Chronic Disease Prevention and Health Promotion, CDC, which is providing technical assistance to the RMTFC. OSH and experts from other federal, state, and voluntary health agencies determined from all submissions the most effective program for each area.

For the second component, OSH and the eight states collected state-specific baseline data to help the panel assess the overall tobacco prevention and control activity within each state. A standard questionnaire was used to obtain information on tobacco-use surveillance, health department policies and programs, legislative

TABLE 1. Baseline tobacco-related data — Rocky Mountain T

State	1987 Adult smoking prevalence (%)*	1987 Adolescent smoking prevalence (%)†	1987–88 Per capita cigarette consumption§
Arizona	26	NA¶¶	2083
Colorado	25	NA	1970
Montana	22	8.2	1788
New Mexico	21	15.0	1600
N. Dakota	24	10.5	1794
S. Dakota	25	NA	1877
Utah	15	13.0	1227
Wyoming	NA	NA	2247

*Source: Reference *2.*
†Source: Unpublished data from state health departments.
§Number of cigarettes consumed per person ≥18 years old per year
¶Deaths per 100,000 persons. Source: Reference *4.*
**Source: Reference *5.* Restrictiveness key: 0, none; 1, nominal (sta
private worksites); 2, basic (state regulates smoking in ≥4 public pl
regulates smoking in restaurants but not private worksites); 4, exten
††Expenditures by state health departments. Source: data from state
§§No comparable data available.

...in Tobacco-Free Challenge

...n§	1985 Smoking-attributable deaths¶	1985 Smoking-attributable mortality rate¶	1988 Clean indoor air legislation (restrictiveness key)**	1988 Per capita expenditures (cents) on tobacco control††
	3844	122.6	2	1.5
	3005	94.2	2	1.3
	1047	127.4	4	NA
	1217	84.9	2	5.2
	760	112.8	3	6.0
	963	137.2	2	NA
	742	45.3	4	10.9
	497	98.4	0	3.5

...year (2-year average). Source: Reference *3*.

...l (state regulates smoking in 1–3 public places, excluding restaurants and ...ic places, excluding restaurants and private worksites); 3, moderate (state ...xtensive (state regulates smoking in private worksites).

...state health departments.

Tobacco-Free Challenge — Continued

activities, coalitions, school activities, demographics, and state government activities. The panel used these data to determine which states had the most effective programs for reducing the prevalence of tobacco use.

North Dakota was judged to be the leader after the first year of the RMTFC; New Mexico and Colorado ranked second and third, respectively. Most states emphasized public information programs in their efforts to reduce the prevalence of tobacco use. Because less emphasis has been placed on primary and secondary education programs and surveillance, the RMTFC demonstrated an overall need in the region for improved surveillance of adolescent smoking behavior (Table 1).

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Editorial Note Key elements of the RMTFC include the active participation of the eight state governors, increased community interest, strengthened interstate and intrastate collaboration, promotion of state activities to reduce tobacco use, and implementation of long-term evaluation of tobacco-related policies. The competitive approach employed by the eight states is a model that other regions of the country can adopt for innovative tobacco-use–reduction activities.

To facilitate planning for state-based tobacco-control activities, the Association of State and Territorial Health Officials has published and distributed the *Guide to Public Health Practice: State Health Agency Tobacco Prevention and Control Plans* (*6*). Strategies for implementation of tobacco prevention and control plans outlined in this guide include use of federal resources; development of coalitions and advisory groups; assessment of tobacco use in the state through surveys; development of a mission with goals and objectives; analysis of existing tobacco-control programs and resources and the potential to expand on these programs; and presentation, evaluation, and revision of the plan.* Examples of successful tobacco prevention and control plans include those already developed by North Dakota, New Mexico, and Colorado.

Stimulation of activity at the local level (e.g., communities, counties, and coalitions) is essential to effective tobacco control and may promote national progress toward a smoke-free society. On November 16, the annual Great American Smokeout will emphasize nationwide efforts at the local level to reduce the prevalence of smoking. Sponsored each year by the American Cancer Society, this event serves as a focal point for support of smokers who are trying to quit. During the 24-hour period of the 1988 Smokeout, an estimated 18.4 million smokers tried to quit smoking, and approximately 5.4 million refrained from smoking during the entire 24-hour period (*7*).

References

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2. CDC. Behavioral risk factor surveillance 1987, selected states. MMWR 1989;38:469–73.

*Copies of the *Guide* may be obtained after January 1, 1990, from either the Cancer Communications Branch, National Cancer Institute, telephone (301) 496-6792, or the Technical Information Center, OSH, telephone (301) 443-1690.

Tobacco-Free Challenge — Continued

3. Tobacco Institute. The tax burden on tobacco: historical compilation. Washington, DC: The Tobacco Institute, 1988;23:29.
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6. Association of State and Territorial Health Officials/National Cancer Institute. Guide to public health practice: state health agency tobacco prevention and control plans. McLean, Virginia: Association of State and Territorial Health Officials, 1989.
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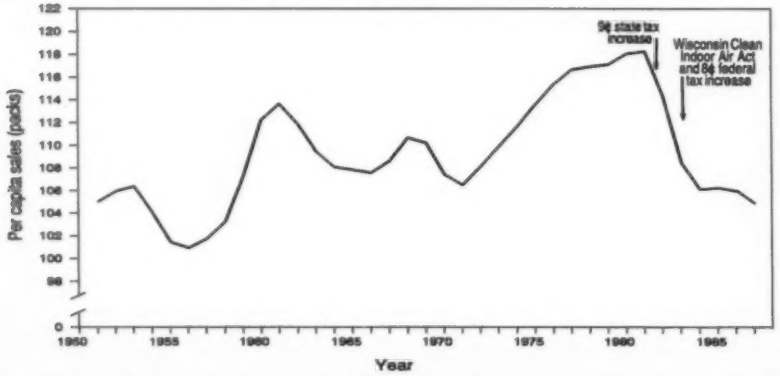
Trends in Cigarette Smoking — Wisconsin, 1950–1988

To assess progress in reducing cigarette smoking in Wisconsin, the Division of Health, Wisconsin Department of Health and Social Services, analyzed trends in cigarette sales from 1950 to 1988 (*1*). In Wisconsin, cigarette taxes are levied as an excise tax at the time cigarettes are shipped from tobacco distribution centers rather than as sales tax at the time consumers purchase them. To compensate for the time lag between shipment and sale, a 2-year moving average* of per capita cigarette sales (*2*) was calculated. In this report, per capita sales are the total number of cigarettes for which Wisconsin state excise tax was paid in a given year divided by the number of Wisconsin adults (i.e., residents ≥18 years old).

In 1951, 105 packs of cigarettes (20 cigarettes per pack) were sold for every adult in the state (Figure 1). Per capita cigarette sales peaked in 1981 at 118 packs per Wisconsin adult. Four periods had sustained (≥3 years) declines in tobacco sales:

*Incorporates data from the previous and the following year to calculate the value for a given year.

FIGURE 1. Per capita sales of cigarettes, by year — Wisconsin, 1950–1988*



*Two-year moving average incorporating data from the previous and the following year to calculate the value for a given year.

Smoking Trends – Continued

1954–1956, 1962–1966, 1969–1971, and 1982–1984. The greatest decline (10%) occurred from 1982 to 1983.

Adapted from: Wisconsin Medical Journal *1989;88(11):40–2, and reported by: PL Remington, MD, HA Anderson, MD, Div of Health, Wisconsin Dept of Health and Social Svcs. Div of Field Svcs, Epidemiology Program Office; Office on Smoking and Health, Center for Chronic Disease Prevention and Health Promotion, CDC.*

Editorial Note: Since the 1950s, when studies linking lung cancer with cigarette smoking were first published, efforts to discourage smoking have increased substantially (*3*). These efforts have included mandatory warning labels on cigarette packs, physicians' advice to quit, antismoking advertising, worksite smoking-cessation programs, increased restriction on places to smoke, reduced insurance premiums for nonsmokers, and increased taxes on cigarettes.

In Wisconsin, the first three periods of decline in per capita sales might have been related to major national smoking and health "events" (*4*). The 1954–1956 decline coincided with the first major publicity on adverse effects of smoking on health, a 1952 national magazine article linking cancer and cigarettes (*4*); the 1962–1966 decline, with the release of additional information about adverse effects, especially the first Surgeon General's report on smoking and health in 1964; and the 1969–1971 decline, with the television broadcast of antismoking public service announcements during 1967–1970 required by the Federal Communications Commission's Fairness Doctrine (*4*).

The largest decrease in cigarette sales occurred during 1982–1984, concurrent with the largest cigarette tax increases: Wisconsin tax, from 16¢ to 25¢ per pack in 1981–1982 and federal tax, from 8¢ to 16¢ per pack in 1983. This decrease in cigarette sales in Wisconsin is unlikely to be due to the purchase of cigarettes by Wisconsin residents in neighboring states. Even though the price of cigarettes was 5¢–10¢ lower per pack in Illinois and Minnesota, Wisconsin netted a 40% increase in cigarette tax collections from 1981 to 1983. In addition, cigarette sales did not increase in Wisconsin in 1986, when Illinois and Minnesota imposed higher cigarette taxes and the interstate price differential disappeared. The decrease in cigarette sales also coincided with the enactment of Wisconsin's Clear Indoor Air Act in 1983 (Figure 1) (*5*). This act mandated smoking restrictions in government worksites and public places to reduce the exposure of nonsmokers to environmental tobacco smoke.

Despite the limitations inherent in ecologic correlations such as this, the Wisconsin data suggest that three key antismoking publicity events (in 1952, 1964, and 1967–1970) helped to reduce cigarette sales. Nonetheless, each of these periods of reduced sales was followed by an increase in cigarette sales. Only the fourth period of reduction in cigarette sales (1982–1984) has been sustained—probably because of continuing interventions, including taxes and clean indoor air acts. This study suggests that, because of their continuous nature, public policy changes such as increased taxes and clean indoor air acts are important in achieving sustained reductions in tobacco sales.

References

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Smoking Trends – Continued

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5. Wisconsin Statutes §101.123 (1987–88).

Medical Examiner/Coroner Reports of Deaths Associated with Hurricane Hugo – South Carolina

At 11:57 p.m. eastern daylight time on Thursday, September 21, 1989, the eye of Hurricane Hugo struck the coast of South Carolina north of Charleston (Figure 1). Peak wind velocities in Charleston were measured at 135 mph, and there was an accompanying tidal surge of 12–17 feet. Heavy rains caused additional flooding and further damage. In addition to the damage or destruction to homes and buildings, approximately 900,000 persons in North and South Carolina were left without electrical power. After striking the coast, Hugo moved across central South Carolina and North Carolina. On September 22, the National Weather Service downgraded Hugo to a tropical storm.

(Continued on page 759)

TABLE I. Summary – cases of specified notifiable diseases, United States

Disease	44th Week Ending			Cumulative, 44th Week Ending		
	Nov. 4, 1989	Nov. 5, 1988	Median 1984-1988	Nov. 4, 1989	Nov. 5, 1988	Median 1984-1988
Acquired Immunodeficiency Syndrome (AIDS)	264	U*	378	29,141	26,370	11,314
Aseptic meningitis	283	179	226	8,381	5,828	8,768
Encephalitis: Primary (arthropod-borne & unspec)	27	12	37	746	704	1,038
Post-infectious	-	-	1	72	109	101
Gonorrhea: Civilian	14,052	15,198	17,080	588,587	591,479	712,627
Military	201	286	286	9,264	9,937	14,269
Hepatitis: Type A	850	702	508	29,520	21,923	19,222
Type B	465	435	442	19,177	19,029	21,861
Non A, Non B	42	55	72	1,987	2,175	3,021
Unspecified	42	55	64	1,920	1,925	3,716
Legionellosis	27	15	22	919	837	689
Leprosy	2	3	3	140	137	195
Malaria	18	32	19	1,085	873	873
Measles: Total†	103	29	23	12,993	2,474	2,606
Indigenous	96	18	18	12,359	2,209	2,209
Imported	7	11	3	634	265	302
Meningococcal infections	70	66	50	2,247	2,408	2,284
Mumps	71	55	55	4,597	3,963	3,963
Pertussis	78	48	48	2,977	2,541	2,541
Rubella (German measles)	3	2	5	383	186	474
Syphilis (Primary & Secondary): Civilian	726	911	590	35,198	32,657	23,618
Military	4	3	3	205	136	142
Toxic Shock syndrome	9	4	7	321	311	311
Tuberculosis	341	477	407	17,941	18,007	18,016
Tularemia	2	5	3	133	170	170
Typhoid Fever	13	7	7	422	337	307
Typhus fever, tick-borne (RMSF)	11	7	10	588	565	653
Rabies, animal	53	91	101	3,961	3,705	4,617

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1989		Cum. 1989
Anthrax	-	Leptospirosis (Hawaii 4)	82
Botulism: Foodborne (Alaska 3)	24	Plague	4
Infant	16	Poliomyelitis, Paralytic	-
Other	4	Psittacosis	86
Brucellosis (Nev. 1, Calif. 1)	75	Rabies, human	1
Cholera	-	Tetanus (N.C. 1, Ala. 1, Md. 1, Calif. 1)	40
Congenital rubella syndrome	2	Trichinosis (Alaska 1)	17
Congenital syphilis, ages < 1 year	165		
Diphtheria	3		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 4, 1989 and November 5, 1988 (44th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	29,141	8,381	746	72	588,587	591,479	29,520	19,177	1,987	1,920	919	140
NEW ENGLAND	1,154	462	21	2	17,482	18,492	627	912	64	75	57	8
Maine	58	28	5	-	233	345	21	50	6	1	5	-
N.H.	38	51	-	-	150	226	58	51	8	4	2	-
Vt.	13	40	4	-	58	101	35	68	7	-	2	-
Mass.	629	150	7	2	6,804	6,233	182	502	25	54	36	6
R.I.	66	87	-	-	1,248	1,715	47	66	4	9	12	1
Conn.	351	106	5	-	8,989	9,872	284	175	14	7	-	1
MID. ATLANTIC	8,362	1,140	33	5	82,930	94,488	3,577	2,998	187	211	228	21
Upstate N.Y.	1,151	484	28	4	14,229	12,974	814	579	69	11	79	4
N.Y. City	4,343	148	2	1	31,867	41,110	374	1,177	32	172	34	15
N.J.	1,891	-	3	-	13,010	13,254	412	533	27	5	39	1
Pa.	977	508	-	-	23,824	27,150	1,977	709	59	23	76	1
E.N. CENTRAL	2,253	1,675	276	9	110,489	100,846	1,769	2,262	225	84	263	4
Ohio	411	554	112	4	28,994	22,640	364	399	38	20	111	-
Ind.	321	229	41	3	8,364	7,815	192	348	27	29	55	1
Ill.	968	326	54	2	36,607	29,971	771	585	92	21	17	3
Mich.	442	461	46	-	28,225	31,854	251	569	43	14	40	-
Wis.	111	106	23	-	8,299	8,566	191	361	25	-	40	-
W.N. CENTRAL	703	427	31	4	28,234	24,883	1,208	865	105	23	33	1
Minn.	154	49	2	1	3,068	3,404	143	100	18	4	2	-
Iowa	52	72	13	-	2,391	1,858	138	36	14	5	6	-
Mo.	350	189	3	-	17,306	14,232	618	591	44	8	14	-
N. Dak.	6	12	1	-	113	165	4	22	4	2	1	-
S. Dak.	4	12	4	-	234	428	13	10	9	-	2	-
Nebr.	27	18	5	-	1,304	1,367	69	25	3	2	2	1
Kans.	110	75	3	3	3,818	3,429	223	81	13	2	6	-
S. ATLANTIC	6,071	1,651	153	23	159,132	165,949	3,040	3,735	299	313	121	2
Del.	74	71	1	-	2,770	2,597	65	127	5	8	11	-
Md.	597	209	18	2	19,014	17,406	909	638	25	28	27	-
D.C.	410	23	-	-	9,063	12,445	8	27	2	-	1	-
Va.	375	335	37	3	13,799	12,138	269	259	62	184	8	-
W. Va.	48	82	82	-	1,227	1,166	25	87	10	8	-	-
N.C.	391	189	8	2	23,944	23,013	394	914	80	-	31	1
S.C.	291	34	1	-	14,525	13,198	72	529	3	10	7	-
Ga.	950	123	2	1	30,825	31,430	325	363	11	8	24	-
Fla.	2,935	575	4	15	43,965	52,556	973	791	101	67	12	1
E.S. CENTRAL	646	617	42	2	48,116	47,217	353	1,356	139	12	56	-
Ky.	108	194	15	1	4,678	4,786	104	335	46	5	9	-
Tenn.	200	117	5	-	16,273	16,227	136	711	31	-	32	-
Ala.	198	213	19	-	15,351	14,295	74	198	54	3	13	-
Miss.	140	93	3	1	11,814	11,909	39	112	8	4	2	-
W.S. CENTRAL	2,590	841	70	6	62,067	63,513	3,313	1,911	130	453	44	19
Ark.	63	41	8	-	7,301	6,326	226	66	15	9	2	-
La.	415	69	16	1	13,073	12,504	237	323	15	2	8	-
Okla.	130	74	12	3	5,338	6,013	403	168	33	33	25	-
Tex.	1,982	657	34	2	36,355	38,670	2,447	1,354	67	409	9	19
MOUNTAIN	918	280	13	4	12,491	12,725	4,267	1,271	182	124	52	3
Mont.	17	6	-	-	161	364	86	41	6	3	3	1
Idaho	20	2	-	1	150	291	151	113	12	3	1	-
Wyo.	14	5	-	-	92	178	46	8	2	-	-	-
Colo.	336	137	3	1	2,678	2,827	440	142	47	52	4	-
N. Mex.	78	10	1	-	1,118	1,255	566	181	31	3	5	1
Ariz.	234	92	3	-	5,012	4,658	2,235	488	47	52	25	1
Utah	59	19	1	2	389	456	427	98	23	4	7	-
Nev.	160	9	5	-	2,891	2,696	316	200	14	7	7	-
PACIFIC	6,444	1,288	107	17	67,646	63,366	11,366	3,867	656	625	65	82
Wash.	461	-	5	1	5,400	6,067	2,683	831	175	53	23	7
Oreg.	205	-	-	-	2,621	2,704	2,025	442	68	14	2	1
Calif.	5,607	1,168	88	16	58,301	53,169	5,924	2,467	399	543	37	61
Alaska	16	31	11	-	868	899	573	54	6	5	1	-
Hawaii	155	89	3	-	456	527	161	73	8	10	2	13
Guam	1	5	1	-	82	135	4	-	-	6	-	1
P.R.	1,065	84	2	1	945	1,122	170	201	16	19	-	8
V.I.	26	-	-	-	555	376	-	8	-	-	-	-
Amer. Samoa	-	-	-	-	19	72	22	-	1	-	-	3
C.N.M.I.	-	-	-	-	58	44	2	7	-	1	-	1

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 4, 1989 and November 5, 1988 (44th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	1989	Cum. 1989	Cum. 1988
UNITED STATES	1,085	98	12,359	7	634	2,474	2,247	71	4,597	78	2,977	2,541	3	383	188
NEW ENGLAND	78	-	298	-	38	113	184	1	76	1	333	270	-	6	9
Maine	-	-	-	-	1	7	16	-	-	-	25	13	-	-	-
N.H.	2	-	8	-	7	88	16	1	15	-	16	47	-	4	5
Vt.	3	-	1	-	2	-	8	-	2	-	6	4	-	1	-
Mass.	44	-	42	-	21	4	91	-	50	1	257	169	-	1	3
R.I.	17	-	38	-	3	-	1	-	-	-	11	15	-	-	1
Conn.	12	-	209	-	4	14	32	-	9	-	18	22	-	-	-
MID. ATLANTIC	200	5	743	-	178	577	342	3	415	9	283	175	-	78	14
Upstate N.Y.	32	-	54	-	98	37	120	2	154	1	109	103	-	63	2
N.Y. City	76	5	105	-	18	52	40	-	19	-	11	5	-	15	7
N.J.	54	-	378	-	6	245	68	-	180	-	32	8	-	-	3
Pa.	38	-	206	-	56	543	114	1	62	8	111	59	-	-	2
E.N. CENTRAL	76	52	3,902	7	102	196	294	6	483	24	360	276	-	25	31
Ohio	11	50	1,474	-	35	34	107	-	118	23	68	49	-	3	1
Ind.	11	-	78	-	-	57	29	-	44	-	19	69	-	-	-
Ill.	32	-	1,836	-	1	72	76	-	164	-	112	50	-	20	26
Mich.	14	2	311	7§	23	29	59	6	127	1	43	34	-	1	4
Wis.	8	-	203	-	43	4	23	-	40	-	118	74	-	1	-
W.N. CENTRAL	31	1	668	-	11	13	68	1	395	-	168	122	-	6	2
Minn.	9	-	17	-	-	11	15	-	2	-	46	48	-	-	-
Iowa	4	1	12	-	1	-	2	-	41	-	15	29	-	1	-
Mo.	10	-	399	-	-	2	17	1	59	-	92	22	-	4	-
N. Dak.	2	-	-	-	-	-	-	-	-	-	3	11	-	-	-
S. Dak.	1	-	-	-	-	-	7	-	-	-	2	5	-	-	-
Nebr.	2	-	108	-	2	-	18	-	5	-	6	-	-	-	-
Kans.	3	-	132	-	8	-	9	-	288	-	4	7	-	1	2
S. ATLANTIC	187	2	578	-	75	394	386	16	826	5	316	234	-	10	17
Del.	7	-	42	-	1	-	2	-	1	-	1	7	-	-	-
Md.	35	-	64	-	36	14	68	8	406	-	67	44	-	2	1
D.C.	10	U	36	U	4	-	15	U	127	U	2	1	U	-	-
Va.	38	-	20	-	3	200	46	1	121	-	33	21	-	-	11
W. Va.	2	-	53	-	-	6	13	1	14	-	32	8	-	-	-
N.C.	20	2	187	-	3	5	55	3	37	2	69	65	-	1	-
S.C.	10	-	15	-	-	-	29	-	37	-	-	1	-	-	-
Ga.	12	-	1	-	16	-	64	2	41	3	44	35	-	-	2
Fla.	53	-	160	-	12	169	94	1	42	-	69	52	-	7	3
E.S. CENTRAL	15	-	239	-	4	69	73	2	222	2	132	98	-	5	2
Ky.	1	-	40	-	4	35	40	-	9	-	1	12	-	-	-
Tenn.	5	-	148	-	-	-	9	1	73	-	52	29	-	4	2
Ala.	6	-	50	-	-	-	19	-	29	2	74	53	-	1	-
Miss.	3	-	1	-	-	34	5	N	N	-	5	4	-	-	-
W.S. CENTRAL	63	33	3,226	-	75	17	160	32	1,468	2	351	199	-	50	10
Ark.	-	-	3	-	19	1	13	9	162	2	29	23	-	-	3
La.	2	33	91	-	-	-	38	14	643	-	19	17	-	5	-
Okla.	8	-	126	-	-	6	24	-	192	-	53	61	-	1	1
Tex.	53	-	3,016	-	56	9	85	9	471	-	250	98	-	44	6
MOUNTAIN	26	-	369	-	50	149	65	3	199	16	607	706	-	36	6
Mont.	1	-	12	-	1	33	2	-	4	1	39	2	-	1	-
Idaho	2	-	6	-	4	1	2	-	19	5	64	323	-	32	-
Wyo.	1	-	-	-	-	-	-	-	8	-	-	2	-	2	-
Colo.	6	-	79	-	18	115	21	3	36	10	82	30	-	-	2
N. Mex.	4	-	16	-	15	-	2	N	N	-	30	48	-	-	-
Ariz.	9	-	141	-	4	-	25	-	109	-	371	272	-	-	-
Utah	-	-	114	-	-	-	5	-	18	-	21	28	-	-	3
Nev.	3	-	1	-	8	-	8	-	7	-	1	1	-	1	1
PACIFIC	409	3	2,336	-	101	646	695	7	503	19	447	461	3	167	95
Wash.	31	-	31	-	18	7	77	-	42	6	181	105	-	-	-
Oreg.	20	-	12	-	48	8	47	N	N	-	11	45	-	3	-
Calif.	347	3	2,272	-	23	617	588	7	442	9	229	246	3	142	64
Alaska	3	-	1	-	-	2	11	-	2	-	1	8	-	-	-
Hawaii	8	-	20	-	12	12	2	-	17	4	25	57	-	22	31
Guam	3	U	-	U	-	1	-	U	4	U	1	-	U	-	1
P.R.	1	14	560	-	-	190	6	-	8	-	4	15	-	6	3
V.I.	-	-	4	-	-	-	-	1	17	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	2	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	6	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 4, 1989 and November 5, 1988 (44th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	35,198	32,857	321	17,941	18,007	133	422	588	3,961
NEW ENGLAND	1,452	991	17	537	488	2	35	8	9
Maine	13	12	4	25	20	-	-	-	2
N.H.	11	6	2	23	8	-	-	-	2
Vt.	1	3	-	8	4	-	-	-	-
Mass.	430	366	6	294	273	2	24	4	2
R.I.	28	30	2	55	36	-	5	1	-
Conn.	969	574	4	132	125	-	6	3	3
MID. ATLANTIC	7,084	6,634	54	3,700	3,656	2	118	63	650
Upstate N.Y.	806	600	12	280	475	1	33	13	52
N.Y. City	2,950	4,127	3	2,129	2,023	-	52	3	-
N.J.	1,183	855	12	709	569	-	26	27	21
Pa.	2,125	1,152	27	582	589	1	8	20	577
E.N. CENTRAL	1,665	1,032	54	1,816	1,982	3	47	89	112
Ohio	150	89	17	314	380	-	10	30	10
Ind.	54	49	8	132	200	1	4	19	2
Ill.	745	459	12	847	858	-	22	7	28
Mich.	581	384	17	418	453	1	6	3	27
Wis.	135	51	-	105	91	1	5	-	45
W.N. CENTRAL	280	205	39	464	450	50	7	80	520
Minn.	49	17	11	91	76	-	2	-	114
Iowa	30	20	6	44	47	-	2	4	110
Mo.	147	133	10	220	221	37	2	58	57
N. Dak.	2	2	-	13	15	-	-	1	54
S. Dak.	1	-	4	26	31	6	-	5	94
Nebr.	23	27	5	18	13	3	-	1	44
Kans.	28	6	3	52	47	4	1	11	47
S. ATLANTIC	11,971	12,168	24	3,748	3,793	6	39	212	1,182
Del.	185	91	1	35	37	-	2	1	29
Md.	697	603	1	329	364	2	8	20	331
D.C.	649	598	1	148	169	-	2	-	2
Va.	495	368	4	305	351	4	7	16	224
W. Va.	15	35	-	63	66	-	-	2	47
N.C.	942	693	5	477	409	-	2	109	7
S.C.	728	639	4	423	404	-	2	38	180
Ga.	2,099	2,172	3	597	615	-	4	23	211
Fla.	6,161	6,969	4	1,371	1,378	-	12	3	151
E.S. CENTRAL	2,590	1,694	9	1,393	1,489	7	3	63	320
Ky.	48	56	2	338	319	1	1	14	125
Tenn.	1,140	735	4	426	452	5	1	34	83
Ala.	779	484	2	392	446	-	1	6	108
Miss.	623	419	1	237	†272	1	-	9	4
W.S. CENTRAL	5,141	3,708	23	2,179	2,282	41	15	75	544
Ark.	328	204	2	234	259	30	-	19	80
La.	1,293	725	-	292	285	-	1	1	12
Okla.	95	131	12	190	209	11	1	42	86
Tex.	3,435	2,648	9	1,463	1,529	-	13	13	366
MOUNTAIN	726	735	42	409	523	16	12	24	242
Mont.	1	3	-	16	19	1	-	14	70
Idaho	1	2	3	23	19	-	-	4	11
Wyo.	6	1	2	-	5	3	-	2	74
Colo.	60	96	9	19	97	3	2	3	21
N. Mex.	28	48	5	76	94	2	1	1	21
Ariz.	284	142	10	199	206	-	8	-	26
Utah	15	14	9	37	29	6	1	-	8
Nev.	333	431	4	39	54	1	-	-	11
PACIFIC	4,309	5,490	59	3,695	3,386	6	148	4	382
Wash.	350	204	4	200	200	-	9	-	-
Oreg.	207	258	-	119	128	4	6	1	-
Calif.	3,734	4,987	54	3,174	2,864	2	122	3	316
Alaska	7	14	-	44	39	-	-	-	66
Hawaii	11	27	1	158	135	-	9	-	-
Guam	4	3	-	45	26	-	1	-	-
P.R.	469	589	-	241	194	-	9	-	63
V.I.	8	1	-	4	6	-	1	-	-
Amer. Samoa	-	-	-	2	4	-	2	-	-
C.N.M.I.	7	1	-	12	24	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending November 4, 1989 (44th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	614	423	101	50	12	28	55
Boston, Mass.	188	126	31	20	5	6	24
Bridgeport, Conn.	49	39	5	4	-	1	4
Cambridge, Mass.	21	15	5	1	-	-	2
Fall River, Mass.	26	23	1	1	-	1	-
Hartford, Conn.	50	26	9	7	2	6	4
Lowell, Mass.	17	16	1	-	-	-	2
Lynn, Mass.	9	9	-	-	-	-	-
New Bedford, Mass.	23	20	2	1	-	-	2
New Haven, Conn.	45	24	11	5	4	1	7
Providence, R.I.	52	34	10	4	-	4	4
Somerville, Mass.	3	3	-	-	-	-	-
Springfield, Mass.	45	25	11	1	1	7	2
Waterbury, Conn.	26	22	4	-	-	-	-
Worcester, Mass.	60	41	11	6	-	2	4
MID. ATLANTIC	2,629	1,726	490	298	52	63	120
Albany, N.Y.	50	39	8	1	-	2	1
Allentown, Pa.	17	13	1	3	-	-	1
Buffalo, N.Y.§	101	66	19	11	2	3	5
Camden, N.J.	34	23	6	3	1	1	-
Elizabeth, N.J.	16	12	2	1	1	-	-
Erie, Pa.†	37	28	7	2	-	-	5
Jersey City, N.J.	52	31	10	8	1	2	1
N.Y. City, N.Y.	1,449	906	272	204	36	31	43
Newark, N.J.	76	37	23	11	2	3	3
Paterson, N.J.	20	10	8	1	-	1	-
Philadelphia, Pa.	298	203	62	22	3	8	15
Pittsburgh, Pa.†	73	49	13	10	1	-	3
Reading, Pa.	30	22	3	3	-	2	4
Rochester, N.Y.	146	110	20	9	1	6	17
Schenectady, N.Y.	29	25	1	3	-	-	1
Scranton, Pa.†	36	29	7	-	-	-	5
Syracuse, N.Y.	89	66	15	4	3	1	8
Trenton, N.J.	30	23	3	1	1	2	4
Utica, N.Y.	17	13	4	-	-	-	1
Yonkers, N.Y.	29	21	6	1	-	1	3
E.N. CENTRAL	2,287	1,493	473	178	59	84	108
Akron, Ohio	79	48	20	5	2	4	-
Canton, Ohio	43	28	12	2	1	-	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	147	99	38	3	4	3	19
Cleveland, Ohio	151	89	32	17	3	10	2
Columbus, Ohio	99	56	21	10	11	1	1
Dayton, Ohio	121	86	18	14	-	3	3
Detroit, Mich.	237	140	49	27	9	12	6
Evansville, Ind.	43	32	6	1	2	2	3
Fort Wayne, Ind.	65	44	13	5	1	2	2
Gary, Ind.	20	13	3	3	1	-	1
Grand Rapids, Mich.	67	47	8	6	2	4	10
Indianapolis, Ind.	180	105	47	15	4	9	5
Madison, Wis.	43	31	8	1	2	1	4
Milwaukee, Wis.	139	105	22	6	2	4	3
Peoria, Ill.	41	32	6	2	-	1	4
Rockford, Ill.	38	23	9	4	2	-	6
South Bend, Ind.	61	41	14	3	2	1	7
Toledo, Ohio	87	63	17	5	1	1	4
Youngstown, Ohio	62	49	5	4	-	4	10
W.N. CENTRAL	835	586	139	63	22	24	45
Des Moines, Iowa	77	59	9	5	1	3	10
Duluth, Minn.	34	30	2	1	1	-	1
Kansas City, Kans.§	80	60	14	5	1	-	2
Kansas City, Mo.	127	89	19	9	5	5	6
Lincoln, Nebr.	22	19	3	-	-	-	2
Minneapolis, Minn.	138	97	22	12	3	4	11
Omaha, Nebr.	95	59	22	8	3	3	5
St. Louis, Mo.	141	87	25	17	6	5	6
St. Paul, Minn.	71	57	12	-	-	2	2
Wichita, Kans.	50	29	11	6	2	2	-
S. ATLANTIC	1,237	743	284	129	41	40	64
Atlanta, Ga.	144	83	39	19	1	2	3
Baltimore, Md.	170	83	48	21	13	5	12
Charlotte, N.C.	71	46	11	8	2	4	8
Jacksonville, Fla.	125	75	32	10	4	4	4
Miami, Fla.	124	74	29	10	2	9	2
Norfolk, Va.	70	46	15	6	1	2	5
Richmond, Va.	103	61	23	11	5	3	8
Savannah, Ga.	61	45	13	2	1	-	9
St. Petersburg, Fla.	64	53	8	2	-	1	4
Tampa, Fla.	78	54	13	4	3	4	4
Washington, D.C.	199	104	48	32	9	6	5
Wilmington, Del.	28	19	5	4	-	-	-
E.S. CENTRAL	785	506	155	74	23	26	56
Birmingham, Ala.	96	53	18	14	5	6	2
Chattanooga, Tenn.	63	40	16	4	-	3	13
Knoxville, Tenn.	86	60	16	7	1	2	9
Louisville, Ky.	113	79	21	8	2	3	12
Memphis, Tenn.	190	121	32	21	8	8	17
Mobile, Ala.	98	67	22	6	2	-	1
Montgomery, Ala.	27	16	7	3	1	-	1
Nashville, Tenn.	112	70	23	11	4	4	11
W.S. CENTRAL	1,747	1,081	364	201	48	53	77
Austin, Tex.	59	40	9	5	3	2	4
Baton Rouge, La.	31	15	11	4	1	-	-
Corpus Christi, Tex.	56	42	8	3	1	2	4
Dallas, Tex.	230	132	41	40	3	14	6
El Paso, Tex.	65	41	12	4	4	4	6
Fort Worth, Tex	104	64	28	9	4	1	9
Houston, Tex.§	734	436	169	89	24	16	18
Little Rock, Ark.	75	50	15	7	-	3	5
New Orleans, La.	119	69	24	20	3	3	-
San Antonio, Tex.	166	118	30	11	2	5	15
Shreveport, La.	42	28	9	3	2	-	5
Tulsa, Okla.	66	46	10	6	1	3	5
MOUNTAIN	616	393	125	63	22	13	42
Albuquerque, N. Mex.	77	51	12	10	1	3	7
Colo. Springs, Colo.	36	24	8	3	-	1	5
Denver, Colo.	127	89	21	9	6	2	3
Las Vegas, Nev.	87	52	19	12	3	1	7
Ogden, Utah	27	18	6	2	1	-	7
Phoenix, Ariz.	124	68	33	16	5	2	6
Pueblo, Colo.	24	17	6	1	-	-	2
Salt Lake City, Utah	29	18	5	1	3	2	-
Tucson, Ariz.	85	56	15	9	3	2	5
PACIFIC	1,822	1,158	343	197	59	58	116
Berkeley, Calif.	17	10	4	3	-	-	2
Fresno, Calif.	72	43	18	6	2	3	7
Glendale, Calif.	17	12	2	2	1	-	3
Honolulu, Hawaii	66	42	16	3	2	3	11
Long Beach, Calif.	91	55	19	9	2	6	16
Los Angeles Calif.	475	296	81	61	19	12	10
Oakland, Calif.	86	52	16	9	3	6	8
Pasadena, Calif.	27	18	5	1	1	2	1
Portland, Oreg.	122	76	22	13	7	3	1
Sacramento, Calif.	143	102	20	13	3	5	15
San Diego, Calif.	130	91	22	9	6	2	18
San Francisco, Calif.	158	95	29	28	3	3	3
San Jose, Calif.	170	100	41	18	4	7	13
Seattle, Wash.	152	97	35	14	3	3	2
Spokane, Wash.	42	29	7	4	2	-	4
Tacoma, Wash.	54	40	6	4	1	3	2
TOTAL	12,572	8,109	2,474	1,253	338	389	683

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past available 4 weeks.

Hurricane Hugo — Continued

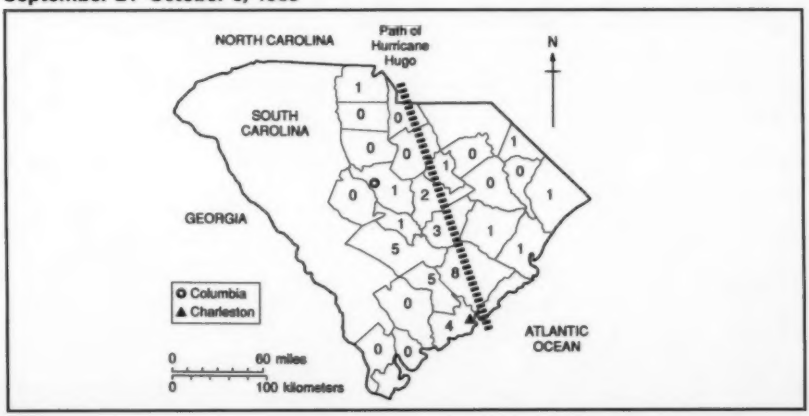
As part of the Medical Examiner and Coroner (ME/C) Information Sharing Program at CDC, public health officials, using contact information in *Medical Examiner and Coroner Jurisdictions in the United States* (*1*), asked ME/Cs in 25 South Carolina counties in the path of Hurricane Hugo to report 1) the number of deaths in their jurisdictions that they investigated between September 21 and October 6; 2) the number of these deaths that were related to the hurricane; and 3) for the 35 deaths reported as hurricane related, information about the demographic characteristics, cause, and circumstances of each death. ME/Cs reported that 29 injury deaths were directly related to the hurricane (Table 1) and categorized the manner of death for these persons as "accident"*. In Dorchester and Berkeley counties, coroners reported six deaths caused by "heart attacks" attributed to stress associated with the hurricane. The manner of death in these cases was "natural," and all six occurred after the hurricane.

No deaths are known to have occurred before the storm (preimpact phase), 13 occurred during the storm (impact phase), and 22 occurred after the storm (postimpact phase). Of the 13 traumatic deaths that occurred during the impact phase, six persons drowned (five when they attempted to bring boats inland from Charleston on the Cooper River and one when her mobile home was struck by the storm surge). Four persons were crushed by their mobile homes. One person was killed when his house collapsed during the storm, and two others were crushed by trees during the storm (one when a tree fell on his house and one when a tree fell on his car).

Of the 22 postimpact-phase deaths, 16 were traumatic. Nine resulted from smoke inhalation or burns from five house fires; these fires were attributed to the use of candles during power outages. In one instance, fire officials concluded the fire was

*"Manner of death" and "accident" are medicolegal terms used on death certificates that refer to the circumstances under which a death occurs; "cause of death" refers to the injury or illness responsible for the death. When a death occurs under "accidental" circumstances, the preferred term within the public health community for the cause of death is "unintentional injury."

FIGURE 1. Path of eye of Hurricane Hugo and number of hurricane-related deaths reported by medical examiners and coroners in 25 counties — South Carolina, September 21–October 6, 1989



Hurricane Hugo — Continued

TABLE 1. Characteristics of the 35 deaths attributed to Hurricane Hugo — South Carolina, September 21–October 6, 1989

Date	Age (yrs)	Sex	Cause and circumstances of death
Impact phase			
September 22	38	M	Drowned while bringing boats inland
	41	F	
	58	M	
	59	M	
	30	M	
	60	F	Drowned by storm surge in mobile home
	1	M	Crushed by mobile home/trailer
	41	F	
	32	M	
	69	M	
	55	M	Crushed by collapsing house
	57	M	Suffered multiple blunt trauma from tree falling into home
	30	M	Suffered head injury when car hit by falling tree
Postimpact phase			
September 22	56	M	Electrocuted while working on power lines
	7	F	Asphyxiated (from smoke inhalation) in house fire caused by candle
September 23	77	F	Collapsed in yard from "heart attack"
	27	F	Asphyxiated while trapped under uprooted tree
	76	M	Burned in house fire caused by candle
September 24	21	F	Asphyxiated (from smoke inhalation) in house fire caused by candle
	3	F	
	1	M	
	57	M	Exsanguinated from neck laceration caused by chain saw
	69	F	Suffered "heart attack" related to stress
	87	M	
	86	M	
September 25	58	M	Electrocuted while clearing debris in yard
September 27	65	F	Asphyxiated (from smoke inhalation) in house fire caused by candles
September 28	48	M	Suffered "heart attack" related to stress
September 29	36	F	Asphyxiated (from smoke inhalation) in house fire caused by candles
	6	M	
	2	M	
September 30	8	M	Suffered head injuries when hit by tree during clean-up
	41	M	Electrocuted while removing debris
October 2	64	M	Suffered "heart attack" related to stress
October 3	22	M	Electrocuted while repairing roof

Hurricane Hugo — Continued

the direct consequence of adults leaving candles burning after going to bed at night. Of the five fires, two separate house fires were each responsible for the deaths of a mother and two young children. Five of the nine fire-related deaths were among children aged 1–7 years.

Four persons were electrocuted in separate incidents during clean-up activities: two of these were occupationally related deaths (one person was working on power lines, and one was repairing a roof). Two deaths resulted when bystanders were injured by falling trees (one of these was an 8-year-old child who died from head injuries sustained when a tree fell on him; the other was a 27-year-old woman who was trapped under a tree's roots as it fell back into the hole from which it had been uprooted). One death was caused by a chainsaw injury sustained during the clean-up. All deaths occurred immediately or within 8 hours of the fatal incident.

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Editorial Note: ME/C systems have not been fully assessed in disaster settings for the purpose of surveillance; however, a study is in progress by CDC to evaluate ME/Cs and other sources of death information in Hurricane Hugo. As part of this study, the completeness and accuracy of ME/C data will be assessed.

In South Carolina, each county has a coroner who is usually an elected official and not a physician (*1,2*). Charleston County, which includes the city of Charleston, has both a medical examiner and a coroner. There is no universally accepted definition of a "hurricane-related death," and for the purposes of this report, the determination was made by each ME/C. Because each county in South Carolina has a different official who used his or her own criteria for determining which deaths were hurricane related, the types of deaths reported as hurricane related vary among counties. Furthermore, other organizations, such as the American Red Cross and the National Weather Service, collect information on disaster-related deaths and might apply different criteria in determining disaster-related deaths. These variations suggest the need for an improved and uniform definition of "disaster-related" deaths.

In the past, hurricane-related mortality has resulted primarily from impact-phase drownings associated with storm surges (*3*). However, as in Puerto Rico, relatively few impact-phase drownings occurred in South Carolina (*4*). The principal public health response to Hurricane Hugo in South Carolina was early warning and a coordinated evacuation plan. By the evening of September 21, South Carolina officials had ordered the evacuation of persons in low-lying and high-risk areas in six coastal counties (Beaufort, Charleston, Colleton, Georgetown, Horry, and Jasper) with a total population of 624,000. Approximately 250,000 persons were evacuated.

Hurricane Hugo – Continued

In contrast to Puerto Rico, where only two (22%) of nine hurricane-related deaths occurred during the impact phase, 13 (45%) of 29 trauma-related deaths in South Carolina reported here were impact-phase fatalities. Four of the postimpact-phase deaths in South Carolina were electrocutions (one power company employee, compared with five in Puerto Rico [*5*]).

The South Carolina data suggest opportunities for prevention of hurricane-related deaths. Accordingly, efforts to educate and prepare the public should focus on: 1) hazards of power outages, including electrocution and the danger of using candles or open flames for light and heat; 2) the need to evacuate from mobile homes potentially in the path of the hurricane to a safe location; 3) hazards of boating during high winds; and 4) risks of injuries during disaster clean-up.

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Trends in Gonorrhea in Homosexually Active Men – King County, Washington, 1989

Analysis of gonorrhea morbidity in King County, Washington, shows an increase in gonorrhea among homosexually active men in 1989. During the 1980s, substantial declines in the occurrence of gonorrhea in homosexual and bisexual men have been documented in the United States and other countries (*1–3*). These trends have been considered to reflect changes in sexual behavior in response to the epidemic of acquired immunodeficiency syndrome (AIDS).

King County has a population of 1.4 million and includes Seattle (population 496,000). Gonorrhea cases are reported to the Seattle-King County Department of Public Health by age, gender, race/ethnicity, and anatomic site of infection. Patients diagnosed in the Seattle-King County Department of Public Health's sexually transmitted disease (STD) clinic at Harborview Medical Center are further classified as heterosexual, homosexual, or bisexual on the basis of the reported gender of their sex partners.

From 1982 through 1988, declines occurred for the annual number of cases of gonorrhea in homosexual and bisexual men attending the STD clinic, and of rectal gonococcal infection reported by the private medical sector (Figure 1). STD clinic gonorrhea cases in homosexually active men declined from 720 in 1982 to 27 in 1988 (–96%). However, 71 cases were reported in the first 9 months of 1989. Based on this observation, an estimated 100 cases (seasonally adjusted) are anticipated in 1989. A similar decline occurred for cases of rectal gonococcal infection in men reported by the private medical sector: from 217 cases in 1982 to six in 1988 (–97%). Eight cases were reported through September 1989, and 12 are projected for the year.

In contrast, the number of gonorrhea cases in the total population continued to decrease in 1989. Total reported gonorrhea cases in King County declined 27%, from 4709 (371 per 100,000 population) in 1982 to 3443 (244 per 100,000 population) in

Gonorrhea — Continued

1988. Through September 1989, 2416 cases were reported, with an estimated 3200 cases (223 per 100,000 population) projected for the year, a further 6% decline.

The age distribution of public clinic cases in homosexual and bisexual men remained relatively constant from 1982 through September 1989. In 1989, 79% of the homosexual or bisexual men with gonorrhea were non-Hispanic whites, 13% were non-Hispanic blacks, and 8% belonged to other racial or ethnic groups (primarily Hispanics); this distribution did not change from 1982 to 1989. Among STD clinic heterosexuals with gonorrhea in 1989, 36% were non-Hispanic whites, 50% were non-Hispanic blacks, and 13% belonged to other racial or ethnic groups.

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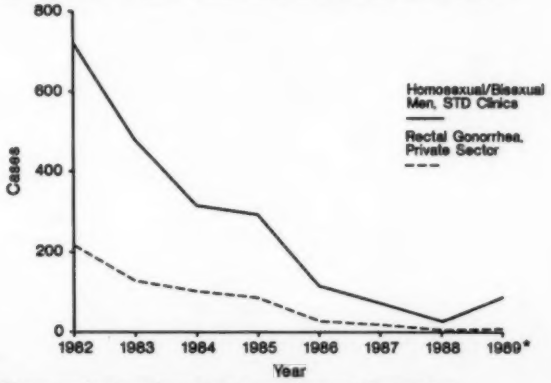
Editorial Note: These data suggest that the number of gonorrhea cases in homosexually active men in King County may triple in 1989 from 1988. This increase cannot be readily explained by differences in screening or testing procedures at the STD clinic. Throughout the 1980s, patient-care approaches have been constant, case reporting systems for the private sector have not been revised, and emphasis on partner referral activities for patients with gonorrhea has not been modified. In addition, the age and race distributions of homosexually active men with gonorrhea have not changed during the 1980s. These demographic patterns suggest that the increase is not limited to a group of younger men nor to a specific racial group for which different levels of commitment to safer sex practices may exist.

Although reasons for this increase are uncertain, at least two hypotheses can be considered. First, the increase may be confined to men who have never fully adopted safer sex practices. Strains of *Neisseria gonorroheae* may have been introduced or reintroduced into a subpopulation of men with stable high-risk patterns of sexual behavior. Thus, the increase might reflect variation within existing STD core populations (*4*). Second, the frequency of high-risk behavior may have increased. For

FIGURE 1. Cases of gonorrhea in homosexual/bisexual men attending the Department of Public Health STD Clinic and reported cases of rectal gonococcal infection in men in the private sector — King County, Washington, 1982–1989*



*Figures for 1989 are projections based on cases through September.

Gonorrhea — Continued

example, because of declining incidence of STD and human immunodeficiency virus (HIV) infections, some homosexually active men may have relaxed behaviors regarding sexual safety (*1–3,5*). In addition, maintenance of profound lifestyle changes, such as abstinence or monogamy, may become more difficult with time and "risky sexual relapse" (*6*) could occur. Additional efforts may be required to maintain positive lifestyle changes of homosexually active men. These positive behavior changes are considered to have contributed to the substantial overall decline during the 1980s in gonorrhea among homosexually active men in King County (Figure 1).

Studies of homosexually active men with gonorrhea are now being planned in Seattle-King County to evaluate these two possible explanations. However, these data from King County support the need for continued careful monitoring of STD trends in homosexual and bisexual men at the local level. State and local health departments are encouraged to implement such monitoring in areas where it is not under way.

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